

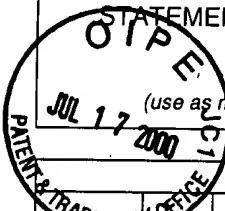


#6  
 (Modified) PTO/SB/08A-B (10-96)  
 Approved for use through 10/31/99. OMB 0651-0031

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)



Complete if Known	
Application Number	09/437,726
Filing Date	November 9, 1999
First Named Inventor	Willem P. C. Stemmer
Group Art Unit	1643-6634
Examiner Name	Unassigned
Attorney Docket Number	02-029220US

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
BKF	AA	WO	98/35966		MAXYGEN, INC.	10-02-1997		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
BKF	AB	Spreitzer, Robert J. (1993) <i>Annu. Rev. Plant Physiol. Plant Mol. Biol.</i> "Genetic Dissection of Rubisco Structure and Function" 44:411-34	
	AC	Larimer F.W et al., <i>Rhodobacter capsulatus</i> Calvin cycle carbon dioxide fixation operon:... "EMBL Database Entry RC23145; Accession No. U23145, 14 April 1995	
	AD	Cramer A. et al., "DNA shuffling of A Family of Genes From Diverse Species Accelerates Directed Evolution" <i>Nature</i> Vol. 391, 15-01-1998, pp 288-291	
	AE	Jamet E. et al "Genes encoding the small subunit of RUBISCO belonging to two highly.. conserved subfamilies in Nicotianease" <i>Journal of Molecular Evolution</i> vol. 33 no., 3 September 1991	
	AF	Wolter F.P. et al., "rbcS genes in Solanum tuberosum: Conservation of transit peptide and exon shuffling during evolution" <i>Proceedings of the National Academy of Sciences of USA</i> vol. 85, February 1988 pp. 846-850	
bbs	AG	Flachmann R. et al., "Mutations in the Small Subunit of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase Increase the Formation of the Misfire Product Xylulose-1,5-Bisphosphate" <i>Plant Physiology</i> vol. 114 no. 1, May 1997 pp 131-136	

Examiner Signature	<i>B.L. Sisson</i>	Date Considered	1-25-03
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Approved for use through 10/31/99. OMB 0651-0031

Substitute for form 1449-A/PTO <b>TECHNICAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>		Complete if Known			
		Application Number	09/437,726		
		Filing Date	November 9, 1999		
		First Named Inventor	Willem P. C. Stemmer		
		Group Art Unit	1643 1651		
		Examiner Name	Unassigned		
		Attorney Docket Number	02-029220US		

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
BFA	AA	4,407,956		Howell	10-04-1983

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office	Number			
BFA	AB	WO	✓ 95/22625	Affymax Technologies, N.V.	08-24-1995	
BFA	AC	EP	✓ 0270356B1	Agracetus, Inc.	06-01-1994	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS						
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
✓ BFA	AD	ALTSCHUL et al., J. Mol. Biol. 215:403-410 (1990)				
✓	AE	BAKER et al. [1985] Plant Genetics 201-211				
✓	AF	BYTEIBER, et al. (1987) Proc. Natl. Acad. Sci. USA: 5345-5349				
✓	AG	DANIELL et al., (1998) Nature Biotechnology 16:346				
✓	AH	DE LA PENA et al. [1987], Nature 325:274-276				
✓	AI	DUNN et al., (1988) J. Biol. Chem 263:10878				
✓	AJ	DUNN et al., (1989) J. Biol. Chem. 264:13057				
✓	AK	FROMM et al. [1986] Nature 319:791-793				
✓	AL	FROMM et al., (1985) "Expression of genes transferred into Monocot and Dicot cells by electroporation" Proc. Natl. Acad. Sci. USA 82:5824				
✓	AM	GOODSPEED et al., (1989) Gene 76:1				
✓	AN	GRAVES AND GOLDMAN, (1986) Plant Mol. Biol 7: 43-50				
✓	AO	HAYASHIMOTO et al. (1990) Plant Physiol. 93: 857				
✓	AP	HENIKOFF & HENIKOFF (1989) Proc. Natl. Acad. Sci. USA 89:10915				
✓	AQ	HERNALSTEENS et al., (1984) EMBO J. 3:3039-41				
✓	AR	HOHN et al., (1982) Molecular Biology of Plant Tumors" Academic Press, New York, pp. 549-560				
✓ BFA	AS	HOOYKAS-VAN SLOGTEREN et al., (1984) Nature 311:763-764				

Examiner Signature	B. J. Sison	Date Considered	4-9-01
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Approved for use through 10/31/99. OMB 0651-0031

Substitute for form 149A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/437,726
		Filing Date	November 9, 1999
		First Named Inventor	Willem P. C. Stemmer
		Group Art Unit	1643 /655-1
		Examiner Name	Unassigned
		Attorney Docket Number	02-029220US

17 BFA	AT	HORSCH et al., (1984) "Inheritance of Functional Foreign Genes in Plants," <u>Science</u> , 233:496-498	
18	AU	KLEIN et al., (1987) <u>Nature</u> 327:70-73	
19	AV	MATTILA et al., (1991) <u>Nucleic Acids Res.</u> 19:4967 - ?	
20	AW	NEEDLEMAN and WUNSCH (1970) <u>J. Mol. Biol.</u> 48:443	
21	AX	PARSON and LIPMAN (1988) <u>Proc. Natl. Acad. Sci. USA</u> 85:2444	
22	AY	PASZKOWSKI et al., (1984) <u>EMBO J.</u> 3:2717-22	
23 BFA	AZ	SMITH and WATERMAN (1981) <u>Adv. Appl. Math</u> 2:482	

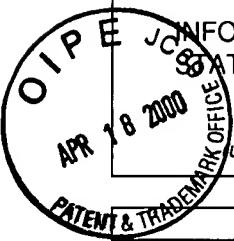
Examiner Signature		Date Considered	
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Substitute for form 1449A-B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)



PATENT & TRADEMARK OFFICE

*#4*  
Complete if Known

Application Number	09/437,726
Filing Date	November 9, 1999
First Named Inventor	Willem P. C. Stemmer
Group Art Unit	1648-1655-
Examiner Name	Unassigned
Attorney Docket Number	02-029220US

**U.S. PATENT DOCUMENTS**

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
B.Z.L.	AA	5,512,463		Stemmer	04-30-1996	
	AB	5,514,588		Varadaraj	05-07-1996	
	AC	5,605,793		Stemmer	02-25-1997	
	AD	5,763,239		Short et al.	06-09-1998	
	AE	5,789,228		Lam et al.	08-04-1998	
	AF	5,811,238		Stemmer et al.	09-22-1998	
	AG	5,814,473		Warren et al.	09-29-1998	
	AH	5,830,696		Short	11-03-1998	
	AI	5,830,721		Stemmer et al.	11-03-1998	
	AJ	5,834,252		Stemmer et al.	11-10-1998	
	AK	5,837,458		Minushull et al.	11-17-1998	
	AL	5,876,997		Kretz	03-02-1999	
	AM	5,925,749		Mathur, et al.	07-20-1999	
	AN	5,928,905		Stemmer, et al.	07-27-1999	
	AO	5,939,250		Short, Jay M.	08-17-1999	
	AP	5,939,300		Robertson, et al.	08-17-1999	
	AQ	5,942,430		Robertson, et al.	08-24-1999	
	AR	5,948,666		Callen, et al.	09-07-1999	
	AS	5,958,672		Short, Jay M.	09-28-1999	
	AT	5,958,751		Murphy, et al.	09-28-1999	
	AU	5,962,258		Mathur, et al.	10-05-1999	
	AV	5,962,283		Warren et al.	10-05-1999	
	AW	5,965,408		Short, Jay M.	10-12-1999	
B.Z.L.	AX	5,985,646		Murphy, et al.	11-16-1999	

Examiner Signature	<i>B.Z.L. Sison</i>	Date Considered	4/9/01
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Substitute for form 1449A-B/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)			Complete if Known			
			Application Number	09/437,726		
			Filing Date	November 9, 1999		
			First Named Inventor	Willem P. C. Stemmer		
			Group Art Unit	1643 1655		
			Examiner Name	Unassigned		
			Attorney Docket Number	02-029220US		

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
1	AY	WO	97/07205		Novo Nordisk A/S	02-27-1997		
2	AZ	WO	97/20078		Affymax Technologies	06-05-1997		
3	BA	WO	97/25410		Novo Nordisk A/S	07-17-1997		
4	BB	WO	97/35957		Maxygen, Inc.	10-02-1997		
5	BC	WO	97/35966		Maxygen, Inc.	10-02-1997		
6	BD	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
7	BE	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
8	BF	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
9	BG	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
10	BH	WO	98/00526		Recombinant Biocatalysis Inc	01-08-1998		
11	BI	WO	98/01581		Recombinant Biocatalysis Inc	01-15-1998		
12	BJ	WO	98/13485		Maxygen, Inc.	04-02-1998		
13	BK	WO	98/13487		Maxygen, Inc.	04-02-1998		
14	BL	WO	98/24799		Diversa Corp.	06-11-1998		
15	BM	WO	98/27230		Maxygen, Inc.	06-25-1998		
16	BN	WO	98/28416		Novo Nordisk A/S	07-02-1998		
17	BO	WO	98/31837		Maxygen, Inc.	07-23-1998		
18	BP	WO	98/36080		Maxygen, Inc.	08-20-1998		
19	BQ	WO	98/41622		Novo Nordisk A/S	09-24-1998		
20	BR	WO	98/41623		Novo Nordisk A/S	09-24-1998		
21	BS	WO	98/41653		Novo Nordisk A/S	09-24-1998		
22	BT	WO	98/42832		California Institute of	10-01-1998		

Examiner Signature	B. S. Lison	Date Considered	4/9/01
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Substitute for form 1449A-B/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)				Complete if Known		
				Application Number	09/437,726	
				Filing Date	November 9, 1999	
				First Named Inventor	Willem P. C. Stemmer	
				Group Art Unit	1648 1655-	
				Examiner Name	Unassigned	
				Attorney Docket Number	02-029220US	

13	BU	WO	98/48034	Technology	Diversa Corp.	10-29-1998
24	BV	WO	98/58085	Diversa Corp.	Diversa Corp.	12-23-1998
25	BW	WO	99/07837	Diversa Corp.	Diversa Corp.	02-19-1999
26	BX	WO	99/08539	Diversa Corp.	Diversa Corp.	02-25-1999
27	BY	WO	99/10472	Diversa Corp.	Diversa Corp.	03-04-1999
28	BZ	WO	99/10539	Diversa Corp.	Diversa Corp.	03-04-1999
29	CA	WO	99/19518	Diversa Corp.	Diversa Corp.	04-22-1999
30	CB	EP	0911396A2	Maxygen, Inc.	Maxygen, Inc.	04-28-1999
31	CC	WO	99/21979	Maxygen, Inc.	Maxygen, Inc.	05-06-1999
32	CD	EP	0911396A3	Maxygen, Inc.	Maxygen, Inc.	05-06-1999
33	CE	WO	99/23107	Maxygen, Inc.	Maxygen, Inc.	05-14-1999
34	CF	WO	99/23236	Diversa Corp.	Diversa Corp.	05-14-1999
35	CG	EP	0934999A1	Maxygen, Inc.	Maxygen, Inc.	08-11-1999
36	CH	WO	99/41368	Maxygen, Inc.	Maxygen, Inc.	08-19-1999
37	CI	WO	99/41369	Maxygen, Inc.	Maxygen, Inc.	08-19-1999
38	CJ	WO	99/41383	Maxygen, Inc.	Maxygen, Inc.	08-19-1999
39	CK	WO	99/41402	Maxygen, Inc.	Maxygen, Inc.	08-19-1999
40	CL	WO	99/45154	Diversa Corp.	Diversa Corp.	09-10-1999
41	CM	WO	99/57128	Maxygen, Inc.	Maxygen, Inc.	11-11-1999
42	CN	WO	99/65927	Maxygen, Inc.	Maxygen, Inc.	12-23-1999

Examiner Signature	B. T. Sisson	Date Considered	4-9-01
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<p>Substitute for form 1449A-B/PTO <b>O I P E</b> INFORMATION DISCLOSURE STATEMENT BY APPLICANT <b>OCT 03 2000</b>   <small>(use as many sheets as necessary)</small> </p>	Complete if Known	
	Application Number	09/437,726
	Filing Date	November 9, 1999
	First Named Inventor	Willem P. C. Stemmer
	Group Art Unit	1643 / 635
	Examiner Name	Unassigned
	Attorney Docket Number	02-029220US

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

#### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

EXAMINER'S RICKART - NONTOPIC LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
BxA	AA	Crameri et al., (1993) "10(20)-Fold aptamer library amplification without gel purification," <u>Nuc. Acids Res.</u> 21(18):4410.	
BxJ	AB	Stemmer, W.P.C. & Soong, N.W. (1999) "Molecular breeding of viruses for targeting and other clinical properties." <u>Tumor Targeting</u> 4:59-62.	

Examiner Signature	B.L. Sison	Date Considered	4-9-01
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